IN THE CLAIMS

Please amend the claims as follows. This listing of the claims will replace all prior versions, and listings, of the claims in the Application.

(currently amended) 1. A method of scheduling high-priority packets in a metro Ethernet switch, the method comprising the steps of:

determining a maximum per-hop queuing delay allowed for at least two high-priority packets in a queue in the switch;

determining which one of the at least two high-priority packets has ~~thea~~ smallest node exit delay requirement~~maximum queuing delay allowed~~, wherein a node exit delay requirement for a designated high-priority packet is the sum of the maximum per-hop queuing delay allowed for the designated high-priority packet and a time of entry at the switch for the designated high-priority packet; and

scheduling the one of the at least two high-priority packets determined to have the smallest node exit delay requirement~~maximum queuing delay allowed~~ before the remaining ones of the at least two high-priority packets.

(currently amended) 2. The method of claim 1 wherein the step of determining which one of the at least two high-priority packets has the smallest node exit delay requirement ~~the maximum queuing delay allowed~~ comprises the steps of:

creating a POS table that lists, for each high-priority packet that has entered the switch, a position of the high-priority packet in a queue of the switch, a time the high-priority packet entered the queue, and an intended destination of the high-priority packet;

creating a Qmax table for storing a maximum allowed per-hop queuing delay for each of several possible intended destinations; and

using the Qmax table and the POS table to determine a node exit delay requirement ~~the maximum queuing delay allowed~~ for each of the high-priority packets in the queue of the switch.

(currently amended) 3. The method of claim 2 wherein the step of creating a Qmax table comprises the steps of, for each label switched path ("LSP") between the switch and one of the possible intended destinations:

determining a number of hops along the LSP; and

dividing a maximum queuing delay allowed for the LSP by the number of hops along the LSP to determine the maximum allowed per-hop queuing delay ~~allowed for each hop~~.

(original) 4. The method of claim 2 wherein the step of creating a Qmax table is performed only once during LSP setup.

(original) 5. The method of claim 2 further comprising the step of updating the POS table each time a new high-priority packet enters the queue.

(currently amended) 6. The method of claim 1 wherein the steps of determining a maximum per-hop queuing delay allowed, determining which one of the at least two high-priority packets has the smallest node exit delay requirement, and scheduling the one of the at least two high-priority packets determined to have the smallest node exit delay requirement ~~maximum queuing delay allowed~~ before the remaining ones of the at least two high-priority packets are performed each time a new high-priority packet enters the queue.

(original) 7. The method of claim 1 wherein the queue is capable of performing an *n*-packet look-ahead.

(currently amended) 8. A method of scheduling high-priority packets in a metro Ethernet switch, the method comprising the steps of:

creating a first table that lists, for each high-priority packet that has entered the switch, a position of the high-priority packet in a queue of the switch, a time the high-priority packet entered the queue, and an intended destination of the high-priority packet;

creating a second table for storing a maximum allowed per-hop queuing delay for each of several possible intended destinations; and

using the first and second tables to determine a node exit delay requirement for each of the high-priority packets in the queue of the switch~~the maximum queuing delay allowed~~, wherein a node exit delay requirement for a designated high-priority packet is the sum of the maximum allowed per-hop queuing delay for the designated high-priority packet and a time of entry at the switch for the designated high-priority packet.

(currently amended) 9. The method of claim 8 further comprising the step of:

determining a maximum per-hop queuing delay allowed for at least two high-priority packets in a queue in the switch.

(currently amended) 10. The method of claim 9 further comprising the step of:

determining which one of the at least two high-priority packets has ~~the~~a smallest node exit delay requirement~~maximum queuing delay allowed~~.

(currently amended) 11. The method of claim 10 further comprising the step of:

scheduling the one of the at least two high-priority packets determined to have the smallest node exit delay requirement~~maximum queuing delay allowed~~ before the remaining ones of the at least two high-priority packets.

(canceled) 12.

(currently amended) 13. The method of claim 8 wherein the step of creating a second table comprises the steps of, for each label switched path ("LSP") between the switch and one of the possible intended destinations:

determining a number of hops along the LSP; and

dividing a maximum queuing delay allowed for the LSP by the number of hops along the LSP to determine the maximum allowed per-hop queuing delay ~~allowed for each hop~~.

(original) 14. The method of claim 8 wherein the step of creating a second table is performed only once during LSP setup.

(original) 15. The method of claim 8 further comprising the step of updating the first table each time a new high-priority packet enters the queue.

(original) 16. The method of claim 8 wherein the queue is capable of performing an *n*-packet look-ahead.

(currently amended) 17. Apparatus for scheduling high-priority packets in a metro Ethernet switch, the apparatus comprising:

means for determining a maximum per-hop queuing delay allowed for at least two high-priority packets in a queue in the switch;

means for determining which one of the at least two high-priority packets has ~~the~~a smallest node exit delay requirement~~maximum queuing delay allowed~~, wherein a node exit delay requirement for a designated high-priority packet is the sum of the maximum per-hop queuing delay allowed for the designated high-priority packet and a time of entry at the switch for the designated high-priority packet; and

means for scheduling the one of the at least two high-priority packets determined to have the smallest node exit delay requirement~~maximum queuing delay allowed~~ before the remaining ones of the at least two high-priority packets.

(currently amended) 18. The apparatus of claim 17 wherein the means for determining which one of the at least two high-priority packets has the smallest node exit delay requirement~~the maximum queuing delay allowed~~ comprises:

a POS table that lists, for each high-priority packet that has entered the switch, a position of the high-priority packet in a queue of the switch, a time the high-priority packet entered the queue, and an intended destination of the high-priority packet;

means for creating a Qmax table for storing a maximum allowed per-hop queuing delay for each of several possible intended destinations; and

means for using the Qmax table and the POS table to determine athe node exit delay requirement~~maximum queuing delay allowed~~ for each of the high-priority packets in the queue of the switch.

(currently amended) 19. The apparatus of claim 18 wherein the means for creating a Qmax table comprises, for each label switched path ("LSP"):

means for determining a number of hops along the LSP; and

means for dividing a maximum queuing delay allowed for the LSP by the number of hops along the LSP to determine the maximum allowed per-hop queuing delay ~~allowed for each hop~~.

(original) 20. The apparatus of claim 18 wherein the Qmax table is created during LSP setup.

(original) 21. The apparatus of claim 18 further comprising means for updating the POS table each time a new high-priority packet enters the queue.

(original) 22. The apparatus of claim 17 wherein the queue is capable of performing an *n*-packet look-ahead.

(currently amended) 23. A packet switch comprising:

a queue containing a plurality of packets received at the switch; and

a scheduler for scheduling transmission of the packets in the queue, wherein when the queue contains at least two high-priority packets, the scheduler schedules the one of the at least two high-priority packets determined to have a smallest node exit delay requirement~~maximum queuing delay allowed~~ before the remaining ones of the at least two high-priority packets, wherein a node exit delay requirement for a designated high-priority packet is the sum of a maximum per-hop queuing delay allowed for the designated high-priority packet and a time of entry at the switch for the designated high-priority packet.

(currently amended) 24. The packet switch of claim 23 further comprising a state machine for:

maintaining a POS table that lists, for each high-priority packet that has entered the switch, a position of the high-priority packet in a queue of the switch, a time the high-priority packet entered the queue, and an intended destination of the high-priority packet; and

maintaining a Qmax table for storing a maximum allowed per-hop queuing delay for each of several possible intended destinations.

(currently amended) 25. The packet switch of claim 24 wherein the scheduler uses the Qmax table and the POS table to determine the node exit delay requirement~~maximum queuing delay allowed~~ for each of the high-priority packets in the queue of the switch.

(currently amended) 26. The packet switch of claim 24 wherein the maximum allowed per-hop queuing delay for each of several possible intended destinations is determined by determining a number of hops along the LSP and dividing a maximum

queuing delay allowed for the LSP by the number of hops along the LSP to determine the maximum allowed per-hop queuing delay ~~allowed for each hop~~.